REMARKS

Claims 1, 19, 37 and 55 have been amended and claim 43 has been cancelled as indicated above in accompaniment of a Request for Continued Examination under 37 C.F.R. § 1.114. The amendments to the claims are supported at least by Figs. 1-7 of the Drawings; the text at page 5, line 8 to page 44, line 12 of the Specification; and especially the text at page 16, line 15 to page 21, line 17 of the Specification, as respectively originally filed. Applicant respectfully requests that this application be allowed and forwarded on to issuance.

Examiner Interview

Applicant respectfully thanks the Examiner for the time spent discussing the disposition of this case on November 27, 2006 by telephone with Applicant's representative. During the discussion, Applicant and the Examiner discussed some claim modifications that would potentially receive favorable treatment by the Examiner. While Applicant believes that such modifications are unnecessary, in the spirit of advancing prosecution of this matter, Applicant has made the clarifying amendments listed above and discussed below.

§ 103 Rejections

Claims 1-76 and 78 stand rejected under 35 U.S.C. 103(a) as being obvious over U.S. Patent No. 6,289,382 to Bowman-Amuah ("Bowman") in view of U.S. Patent No. 5,999,911 to Berg et al. ("Berg").

The Claims

Claim 1 has been amended, and as amended, recites in a distributed computing environment, a computer-implemented method for implementing workflow responsive to a directory object state change, the method comprising:

- automatically detecting a state change to an object in a directory, the directory corresponding to a directory schema, the directory schema defining a hierarchy of content classes, wherein at least one content class of the hierarchy includes a flexible attribute; and
- responsive to detecting the state change, automatically:
  - mapping the state change to the object to a workflow comprising a set of tasks; and
  - executing the tasks to achieve a desired state in the directory.

(Emphasis added.)

In making out the rejection of this claim, the Office argues that Bowman teaches "in a distributed computing environment, a computer-implemented method for dynamically implementing workflow responsive to a directory object state change, the method comprising:" and "automatically mapping the state change to the object to a workflow comprising a set of tasks; and executing the tasks to achieve a desired state in the directory." (Citing to Bowman, column 117, lines 24-37) (page 2 of Office action). The Office admits that Bowman does not disclose "automatically detecting a state change to an object in a directory; and responsive to the state change."

The Office then argues that Berg teaches this subject matter, and that it would have been obvious to one with skill in the art to combine Bowman with Berg (pages 2-3 of Office action). Applicant disagrees with the Office and submits that the Office has failed to make out a *prima facie* case of obviousness.

However, the Applicant asserts, for the following reasons, that foregoing assertions by the Office are moot in view of the amendments to claim 1.

Specifically, neither Bowman nor Berg – whether considered independently or in any possible combination – teaches or suggest all of the features of claim 1, as amended. In particular, neither Bowman nor Berg (respectively or combined) teaches or suggests the directory corresponding to a directory schema, the directory schema defining a hierarchy of content classes, wherein at least one content class of the hicrarchy includes a ***flexible attribute***, as positively recited by the subject matter of claim 1, as amended.

Rather, Bowman teaches various matters related to delivering service via a globally addressable interface, wherein a plurality of such interfaces permit access to different sets of services (Abstract of Bowman). Bowman further discusses the transforming of data into a plurality of concrete objects and associating those objects with an interface (Fig. 54; Col. 191, lines 15-40 of Bowman). It is noted that Bowman refers specifically to *concrete* objects – that is, objects whose attributes and/or functions are fixed and predefined. This is not the same as the subject matter of claim 1, as amended.

In turn, Berg teaches a workflow manager for defining and managing processes in a workflow (Abstract of Berg). Berg states that such a workflow is constructed using a "flow builder", wherein a number of *pre-defined* step types are used. Berg further explains that a designer (user) opens the basic attributes window and assigns (i.e., once and for all) a name to a step and label to appear therein (Col. 10, lines 14-55 of Berg). Thus, Berg is directed to the use of fixed-type steps for defining a workflow arrangement. In any case, this is not the same as the subject matter of claim 1, as amended.

In order to more fully appreciate these important distinctions, the Office is referred to the following text of the Specification, reiterated below for convenience:

> "An application using an object instance of a content class 422 can put, for example, an XML string on the flexible attribute 418. Thus, the application can assign ***any type of information*** such as data value, declarative conditions, operations, operational statuses, and/or the like, on the ***flexible attribute*** 418. This ability for an application to ***modify the operational and/or data providing nature of a directory object*** that includes the ***flexible attribute*** is accomplished without needing to modify the directory schema to create new structural object classes or attributes to include these various data and/or operational characteristics." (Page 17, lines 13-20 of Specification. Emphasis added.).

In accordance with foregoing, the subject matter of claim 1 (as amended) recites, at the very least, an overall hierarchy including a flexible attribute that is neither taught nor suggested by the art of record. This mutual deficiency of Bowman and Berg renders the § 103 rejection of claim 1 (as amended) unsupportable in view of MPEP 2143.03 and the rejection must be withdrawn. Applicant asserts that claim 1, as amended, is allowable for at least this reason.

Furthermore, the Office has failed to make out a *prima facie* case of obviousness because the Office has used hindsight reconstruction to combine Bowman and Berg. Established case law makes it clear that it is impermissible to use the claimed invention as an instruction manual or "template" to piece together the teachings of the prior art so that the claimed invention is rendered obvious. One cannot use hindsight reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention. *In re Fritch,* 23 USPQ 2d 1780, 1784 (Fed. Cir. 1992).

There is no reason, suggestion, or motivation in Bowman or Berg that suggests combining these respective references for any purpose. Therefore, the only logical explanation for the Office's asserted (and deficient) combination is that the Office has used Applicant's disclosure as a template to piece together Bowman and Berg. Upon analyzing the cited portion of Berg, Applicant notes that the words "workflow," "state," and "change" appear multiple times. Therefore, it is clear to Applicant that the Office, upon realizing that Bowman did not teach detecting a state change in a directory object, did a keyword search for the words "work flow," "state," and "change." The Office then attempted to piece together Bowman and Berg in an attempt to cure one or more obvious deficiencies. Thus, the Office clearly has used Applicant's disclosure as a template to piece together Bowman and Berg. As noted above, this is hindsight reconstruction, which is impermissible to use in making out a *prima facie* case of obviousness. For this additional reason, the Office has failed to make out a *prima facie* case of obviousness.

For similar reasons as discussed above, the Office has failed to make out a *prima facie* case of obviousness because the motivation given by the Office is too general. The Office has provided a paper that describes proper and improper rejections made under §103(a). Particularly instructive is Example 17 that appears in Section V of the paper illustrating an improper §103(a) rejection which is based upon a proposed motivation that is simply too general and lacking in particularity. Specifically, ***the motivation to reduce deficiencies*** (page 3 of Office action) is too general because it could cover almost any alteration contemplated. In order for the Office to give this motivation, the Office must explain or show why Bowman is deficient in performing and managing complex processes. Since the Office has

failed to do so, the Office has failed to make out a *prima facie* case of obviousness for this additional reason.

Finally, in making out the rejection, the Office admits that Bowman does not automatically ***detect*** a state change to an ***object in a directory*** and does not teach a response to that state change. However, the Office claims that Bowman does teach a computer-implemented method for implementing workflow ***responsive to a directory object state change.*** In other words, the Office claims that Bowman ***responds*** to a state change to an object in a directory without ever ***detecting*** the state change. This is confusing to Applicant. Applicant questions how one can respond to a state change without ever detecting a state change. Applicant submits that Bowman does not respond to a directory object state change. Therefore, the combination given does not teach or suggest a computer-implemented method for implementing workflow ***responsive to a directory object state change.*** For this additional reason, the Office has failed to make out a *prima facie* case of obviousness.

For all of the reasons mentioned above, the Office has failed to make out a *prima facie* case of obviousness. Accordingly, claim 1, as amended, is allowable.

Claims 2-18 depend from claim 1 and are allowable as depending from an allowable base claim. These claims are also allowable for their own recited features which, in combination with those recited in claim 1, as amended, are neither shown nor suggested by the combination of Bowman and Berg.

Claim 19 has been amended, and as amended recites a computer-readable medium comprising computer-executable instructions to implement workflow responsive to a directory object state change, the computer-executable instructions comprising instructions for:

- detecting a state change to an object in a directory, wherein at least one object of the directory is defined by a flexible attribute configured to store a plurality of different data types, the functionality of the at least one object varying in accordance with the data type stored on the at least one object; and
- responsive to detecting the state change:
  - mapping the state change to the object to a workflow comprising a set of tasks; and
  - executing the tasks to achieve a desired state in the directory.

(Emphasis added.)

In making out the rejection of this claim, the Office uses the same argument as was used in making out the rejection of claim 1 (page 2 of Office action). Accordingly, for the same reasons as discussed with regards to claim 1 (as amended), Applicant submits that the Office has failed to make out *a prima* facie case of obviousness. Specifically, the motivation given by the Office does not make sense and is too general.

More to the point, neither Bowman nor Berg (independently or in any possible combination) teaches or suggests all of the features of claim 19, as amended. In particular, neither Bowman nor Berg teaches or suggests at least one object of the directory is defined by a ***flexible attribute*** configured to store a plurality of different data types, ***the functionality of the at least one object varying in accordance with the data type stored on the at least one object***, as positively recited by claim 19, as amended. The § 103 rejection of claim 19, as amended, is unsupportable in view of the requirements of MPEP 2143.03, and must be withdrawn for at least the foregoing reasons.

Furthermore, the Office has used hindsight reconstruction in making out the rejection. Finally, the combination of Bowman and Berg does not teach or suggest a computer-readable medium comprising computer-executable instructions to implement workflow ***responsive to a directory object state change***.

For all of these reasons, the Office has failed to make out a *prima facie* case of obviousness. Accordingly, claim 19 (as amended) is allowable.

Claims 20-36 depend from claim 19, as amended, and are allowable as depending from an allowable base claim. These claims are also allowable for their own recited features which, in combination with those recited in claim 19, as amended, are neither shown nor suggested by the combination of Bowman and Berg.

Claim 37 has been amended, and as amended recites a computing device comprising:

- a memory comprising computer-executable instructions for automatically implementing workflow responsive to a directory object state change; and
- a processor coupled to the memory for executing the computer-executable instructions, the computer-executable instructions comprising instructions for:
    - detecting a state change to an object in a directory, the directory corresponding to a directory schema; and
    - responsive to detecting the state change:
        - mapping the state change to the object to a workflow comprising a set of tasks, the mapping including evaluating the state change to the object based on a declarative condition stored as a text string on an object instance of a content class defined by the directory schema; and
        - executing the tasks to achieve a desired state in the directory.

(Emphasis added.)

In making out the rejection of this claim, the Office uses the same argument as was used in making out the rejection of claim 1 (page 2 of Office action). Accordingly, for the same reasons as discussed with regards to claim 1, as amended, Applicant submits that the Office has failed to make out *a prima* facie case of obviousness.

In particular, neither Bowman nor Berg (alone or combined) teaches or suggests the mapping including evaluating the state change to the object based on a declarative condition stored as a text string on an object instance of a content class defined by the directory schema, as positively recited by the subject matter of claim 37, as amended. Additionally, the motivation given by the Office does not make sense and is too general. Furthermore, the Office has used hindsight reconstruction in making out the rejection. Finally, the combination of Bowman and Berg, as discussed above, does not teach or suggest a memory comprising computer-executable instructions for automatically implementing workflow ***responsive to a directory object state change***.

For all of these reasons, the Office has failed to make out a *prima facie* case of obviousness. Accordingly, this claim is allowable.

Claims 38-42 and 44-54 depend from claim 37 (as amended) and are allowable as depending from an allowable base claim. These claims are also allowable for their own recited features which, in combination with those recited in claim 37, as amended, are neither shown nor suggested by the combination of Bowman and Berg.

Claim 55 has been amended, and as amended recites a computing device comprising automated processing means for:

- detecting a state change to an object in a directory, the directory corresponding to at least one content class, wherein at least one object of the at least one content class is defined by a flexible attribute, and wherein the functionality of the at least one object varies in accordance with the data type stored thereon; and
- responsive to detecting the state change:
  - mapping the state change to the object to a workflow comprising a set of tasks; and
  - executing the tasks to achieve a desired state in the directory.

(Emphasis added.)

In making out the rejection of this claim, the Office uses the same argument as was used in making out the rejection of claim 1 (page 2 of Office action). Accordingly, for the same reasons as discussed with regards to claim 1, as amended, Applicant submits that the Office has failed to make out *a prima* facie case of obviousness.

Specifically, neither Bowman nor Berg, alone or in any possible combination, teaches or suggests the directory corresponding to at least one content class, wherein at least one object of the at least one content class is defined by a ***flexible attribute***, and wherein ***the functionality of the at least one object varies in accordance with the data type stored thereon***, as positively recited by the subject matter claim 55, as amended. Also, the motivation given by the Office does not make sense and is too general. Furthermore, the Office has used hindsight reconstruction in making out the rejection.

For all of these reasons, the Office has failed to make out a *prima facie* case of obviousness. Accordingly, claim 55, as amended, is allowable.

Claims 56-72 depend from claim 55 and are allowable as depending from an allowable base claim. These claims are also allowable for their own recited features which, in combination with those recited in claim 55, as amended, are neither shown nor suggested by the combination of Bowman and Berg.

Claim 73 recites a computer-readable medium comprising workflow enabled directory schema for automated workflow implementation by a set of computer-program instructions executable by a processor, the workflow enable directory schema comprising a plurality of base object content classes comprising:

- a provisioning service content class to detect an event corresponding to a state change in a directory object;
- a workflow content class for storing a sequence of tasks;
- an event association content class for storing declarative conditions to map the state change to the directory object to an object instance of the workflow content class; and
- wherein the provisioning service content class is further configured to execute the sequence of tasks corresponding to the object instance.

In making out the rejection of this claim, the Office argues that Bowman in combination with Berg teaches "a computer-readable medium comprising workflow enabled directory schema for automated workflow implementation by a set of computer-program instructions executable by a processor, the workflow enable directory schema comprising a plurality of base object content classes comprising: a provisioning service content class to detect an event corresponding to a state change in a directory object." (Citing to Berg, col. 7, lines 56-63).

The Office then argues that Bowman teaches "a workflow content class for storing a sequence of tasks; an event association content class for storing declarative conditions to map the state change to the directory object to an object

instance of the workflow content class; and wherein the provisioning service content class is further configured to execute the sequence of tasks corresponding to the object instance." Applicant notes that the Office has not provided Applicant with a suggestion or motivation from the prior art as to why one would combine Bowman and Berg in this manner. As such, Applicant submits that the Office has failed to make out a *prima facie* case of obviousness.

As set forth in MPEP §§2142 and 2143, a *prima facie* case of obviousness has three basic requirements. First, there must be some ***suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings.*** Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. In this case, the Office has not provided Applicant with any suggestion or motivation as to why one with skill in the art would modify Bowman with Berg in this manner. As such, the Office has failed to make out a *prima facie* case of obviousness. For at least this reason, this claim is allowable.

Claims 74-76 and 78 depend from claim 73 and are allowable as depending from an allowable base claim. These claims are also allowable for their own recited features which, in combination with those recited in claim 73, are neither shown nor suggested by the combination of Bowman and Berg.

Conclusion

All of the claims are in condition for allowance. Accordingly, Applicant requests a Notice of Allowability be issued forthwith. If the Office's next anticipated action is to be anything other than issuance of a Notice of Allowability,

Applicant respectfully requests a telephone call for the purpose of scheduling an interview.

Respectfully Submitted,

Dated: 12/4/06

By: _____

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